

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 10/785, 116A
Source: IFW16
Date Processed by STIC: 07/10/2006

ENTERED

CRF Errors Edited by the STIC Systems Branch

Serial Number: 10/785, 116A

CRF Edit Date: 07/10/2006
Edited by: DA

___ **Realigned nucleic acid/amino acid numbers/text in cases where the sequence text "wrapped" to the next line**

___ **Corrected the SEQ ID NO. Sequence numbers edited were:**

___ **Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:**

 Deleted:  ___ invalid beginning/end-of-file text ; ___ page numbers

___ **Inserted mandatory headings/numeric identifiers, specifically:**

___ **Moved responses to same line as heading/numeric identifier, specifically:**

___ **Other:**



IFW16

RAW SEQUENCE LISTING

DATE: 07/10/2006

PATENT APPLICATION: US/10/785,116A

TIME: 15:28:22

Input Set : A:\PTO.DA.txt

Output Set: N:\CRF4\07072006\J785116A.raw

5 <110> APPLICANT: Pecker, Iris
 7 Vlodavsky , Israel
 9 Feinstein, Elena
 13 <120> TITLE OF INVENTION: POLYNUCLEOTIDE ENCODING A POLYPEPTIDE HAVING HEPARANASE
 ACTIVITY AND
 14 EXPRESSION OF SAME IN GENETICALLY MODIFIED CELLS
 18 <130> FILE REFERENCE: 27674
 C--> 21 <140> CURRENT APPLICATION NUMBER: US/10/785,116A
 C--> 21 <141> CURRENT FILING DATE: 2004-02-25
 21 <160> NUMBER OF SEQ ID NOS: 49
 25 <170> SOFTWARE: PatentIn version 3.1
 29 <210> SEQ ID NO: 1
 31 <211> LENGTH: 27
 33 <212> TYPE: DNA
 35 <213> ORGANISM: Artificial sequence
 39 <220> FEATURE:
 41 <223> OTHER INFORMATION: Synthetic oligonucleotide
 43 <400> SEQUENCE: 1
 44 ccatacctaatacgcactcact atagggc 27
 47 <210> SEQ ID NO: 2
 49 <211> LENGTH: 24
 51 <212> TYPE: DNA
 53 <213> ORGANISM: Artificial sequence
 57 <220> FEATURE:
 59 <223> OTHER INFORMATION: Synthetic oligonucleotide
 61 <400> SEQUENCE: 2
 62 gtagtgatgc catgtaactg aatc 24
 65 <210> SEQ ID NO: 3
 67 <211> LENGTH: 23
 69 <212> TYPE: DNA
 71 <213> ORGANISM: Artificial sequence
 75 <220> FEATURE:
 77 <223> OTHER INFORMATION: Synthetic oligonucleotide
 79 <400> SEQUENCE: 3
 80 actcactata gggctcgcgc ggc 23
 83 <210> SEQ ID NO: 4
 85 <211> LENGTH: 22
 87 <212> TYPE: DNA
 89 <213> ORGANISM: Artificial sequence
 93 <220> FEATURE:
 95 <223> OTHER INFORMATION: Synthetic oligonucleotide
 97 <400> SEQUENCE: 4
 98 gcatacttagc cgtctttctt cg 22
 101 <210> SEQ ID NO: 5

RAW SEQUENCE LISTING

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Input Set : A:\PTO.DA.txt

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111 <220> FEATURE:
113 <223> OTHER INFORMATION: Synthetic oligonucleotide
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119 <210> SEQ ID NO: 6
121 <211> LENGTH: 23
123 <212> TYPE: DNA
125 <213> ORGANISM: Artificial sequence
129 <220> FEATURE:
131 <223> OTHER INFORMATION: Synthetic oligonucleotide
133 <400> SEQUENCE: 6
134 ttctgatccca agaaggaatc aac                             23
137 <210> SEQ ID NO: 7
139 <211> LENGTH: 24
141 <212> TYPE: DNA
143 <213> ORGANISM: Artificial sequence
147 <220> FEATURE:
149 <223> OTHER INFORMATION: Synthetic oligonucleotide
151 <400> SEQUENCE: 7
152 gtagtgatgc catgtaactg aatc                             24
155 <210> SEQ ID NO: 8
157 <211> LENGTH: 9
159 <212> TYPE: PRT
161 <213> ORGANISM: Artificial sequence
165 <220> FEATURE:
167 <223> OTHER INFORMATION: Peptide derived from tryptic digestion of human heparinase
169 <400> SEQUENCE: 8
171 Tyr Gly Pro Asp Val Gly Gln Pro Arg
172 1 5
175 <210> SEQ ID NO: 9
177 <211> LENGTH: 1721
179 <212> TYPE: DNA
181 <213> ORGANISM: Homo sapiens
185 <400> SEQUENCE: 9
186 ctagagcttt cgactctccg ctgcgcggca gctggcgggg ggagcagcca ggtgagccca      60
188 agatgctgct gcgctcgaag cctgcgctgc cgccgcgcgt gatgctgctg ctctctggggc    120
190 cgctgggtcc cctctccctt ggcgcctctg cccgacctgc gcaagcacag gacgtcgtgg      180
192 acctggactt cttcaccag gagccgctgc acctggtgag cccctcgttc ctgtccgtca      240
194 ccattgacgc caacctggcc acggaccgcg ggttcctcat cctcctgggt tctccaaagc      300
196 ttctgacctt ggccagaggc ttgtctcctg cgtacctgag gtttggtggc accaagacag      360
198 acttcctaata ttctgatccc aagaaggaat caacctttga agagagaagt tactggcaat      420
200 ctcaagtcaa ccaggatatt tgcaaatatg gatccatccc tcctgatgtg gaggagaagt      480
202 tacgggttga atggccctac caggagcaat tgctactccg agaacactac cagaaaaagt      540
204 tcaagaacag cacctactca agaagctctg tagatgtgct atacactttt gcaaaactgct      600
206 caggactgga cttgatcttt ggcctaaatg cgttattaag aacagcagat ttgcagtgga      660
208 acagtttctaa tgctcagttg ctctctggact actgctcttc caaggggtat aacattttct      720

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DATE: 07/10/2006

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Input Set : A:\PTO.DA.txt

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210 gggaactagg caatgaacct aacagtttcc ttaagaaggc tgatattttc atcaatgggt 780
212 cgcagttagg agaagattat attcaattgc ataaacttct aagaaagtcc accttcaaaa 840
214 atgcaaaact ctatggctct gatgttggtc agcctcgaag aaagacggct aagatgctga 900
216 agagcttcct gaaggctggt ggagaagtga ttgattcagt tacatggcat cactactatt 960
218 tgaatggacg gactgctacc agggaagatt ttctaaaccc tgatgtattg gacattttta 1020
220 tttcatctgt gcaaaaagtt ttccaggtgg ttgagagcac caggcctggc aagaaggctc 1080
222 ggtaggaga aacaagctct gcatacagag gcggaacgcc cttgctatcc gacacctttg 1140
224 cagctggctt tatgtggctg gataaattgg gcctgtcagc ccgaatggga atagaagtgg 1200
226 tgataggca agtattcttt ggagcaggaa actaccattt agtggatgaa aacttcgatc 1260
228 ctttacctga ttattggcta tctcttctgt tcaagaaatt ggtgggcacc aagggtgtta 1320
230 tggcaagcgt gcaaggttca aagagaagga agcttcgagt ataccttcat tgcacaaaca 1380
232 ctgacaatcc aaggtataaa gaaggagatt taactctgta tgccataaac ctccataacg 1440
234 tcaccaagta cttgcgggta ccctatcctt tttctaacaa gcaagtggat aaataccttc 1500
236 taagaccttt gggacctcat ggattacttt ccaaatctgt ccaactcaat ggtctaactc 1560
238 taaagatggg ggatgatcaa accttgccac ctttaatgga aaaacctctc cggccaggaa 1620
240 gttcactggg cttgccagct ttctcatata gtttttttgt gataagaaat gccaaagtgt 1680
242 ctgcttgcac ctgaaaataa aatatactag tcctgacact g 1721

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246 <210> SEQ ID NO: 10

248 <211> LENGTH: 543

250 <212> TYPE: PRT

252 <213> ORGANISM: Homo sapiens

256 <400> SEQUENCE: 10

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258 Met Leu Leu Arg Ser Lys Pro Ala Leu Pro Pro Pro Leu Met Leu Leu
259 1 5 10 15
262 Leu Leu Gly Pro Leu Gly Pro Leu Ser Pro Gly Ala Leu Pro Arg Pro
263 20 25 30
266 Ala Gln Ala Gln Asp Val Val Asp Leu Asp Phe Phe Thr Gln Glu Pro
267 35 40 45
270 Leu His Leu Val Ser Pro Ser Phe Leu Ser Val Thr Ile Asp Ala Asn
271 50 55 60
274 Leu Ala Thr Asp Pro Arg Phe Leu Ile Leu Leu Gly Ser Pro Lys Leu
275 65 70 75 80
278 Arg Thr Leu Ala Arg Gly Leu Ser Pro Ala Tyr Leu Arg Phe Gly Gly
279 85 90 95
282 Thr Lys Thr Asp Phe Leu Ile Phe Asp Pro Lys Lys Glu Ser Thr Phe
283 100 105 110
286 Glu Glu Arg Ser Tyr Trp Gln Ser Gln Val Asn Gln Asp Ile Cys Lys
287 115 120 125
290 Tyr Gly Ser Ile Pro Pro Asp Val Glu Glu Lys Leu Arg Leu Glu Trp
291 130 135 140
294 Pro Tyr Gln Glu Gln Leu Leu Leu Arg Glu His Tyr Gln Lys Lys Phe
295 145 150 155 160
298 Lys Asn Ser Thr Tyr Ser Arg Ser Ser Val Asp Val Leu Tyr Thr Phe
299 165 170 175
302 Ala Asn Cys Ser Gly Leu Asp Leu Ile Phe Gly Leu Asn Ala Leu Leu
303 180 185 190
306 Arg Thr Ala Asp Leu Gln Trp Asn Ser Ser Asn Ala Gln Leu Leu Leu
307 195 200 205
310 Asp Tyr Cys Ser Ser Lys Gly Tyr Asn Ile Ser Trp Glu Leu Gly Asn

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311      210      215      220
314 Glu Pro Asn Ser Phe Leu Lys Lys Ala Asp Ile Phe Ile Asn Gly Ser
315 225      230      235      240
318 Gln Leu Gly Glu Asp Tyr Ile Gln Leu His Lys Leu Leu Arg Lys Ser
319      245      250      255
322 Thr Phe Lys Asn Ala Lys Leu Tyr Gly Pro Asp Val Gly Gln Pro Arg
323      260      265      270
326 Arg Lys Thr Ala Lys Met Leu Lys Ser Phe Leu Lys Ala Gly Gly Glu
327      275      280      285
330 Val Ile Asp Ser Val Thr Trp His His Tyr Tyr Leu Asn Gly Arg Thr
331      290      295      300
334 Ala Thr Arg Glu Asp Phe Leu Asn Pro Asp Val Leu Asp Ile Phe Ile
335 305      310      315      320
338 Ser Ser Val Gln Lys Val Phe Gln Val Val Glu Ser Thr Arg Pro Gly
339      325      330      335
342 Lys Lys Val Trp Leu Gly Glu Thr Ser Ser Ala Tyr Gly Gly Gly Ala
343      340      345      350
346 Pro Leu Leu Ser Asp Thr Phe Ala Ala Gly Phe Met Trp Leu Asp Lys
347      355      360      365
350 Leu Gly Leu Ser Ala Arg Met Gly Ile Glu Val Val Met Arg Gln Val
351      370      375      380
354 Phe Phe Gly Ala Gly Asn Tyr His Leu Val Asp Glu Asn Phe Asp Pro
355 385      390      395      400
358 Leu Pro Asp Tyr Trp Leu Ser Leu Leu Phe Lys Lys Leu Val Gly Thr
359      405      410      415
362 Lys Val Leu Met Ala Ser Val Gln Gly Ser Lys Arg Arg Lys Leu Arg
363      420      425      430
366 Val Tyr Leu His Cys Thr Asn Thr Asp Asn Pro Arg Tyr Lys Glu Gly
367      435      440      445
370 Asp Leu Thr Leu Tyr Ala Ile Asn Leu His Asn Val Thr Lys Tyr Leu
371      450      455      460
374 Arg Leu Pro Tyr Pro Phe Ser Asn Lys Gln Val Asp Lys Tyr Leu Leu
375 465      470      475      480
378 Arg Pro Leu Gly Pro His Gly Leu Leu Ser Lys Ser Val Gln Leu Asn
379      485      490      495
382 Gly Leu Thr Leu Lys Met Val Asp Asp Gln Thr Leu Pro Pro Leu Met
383      500      505      510
386 Glu Lys Pro Leu Arg Pro Gly Ser Ser Leu Gly Leu Pro Ala Phe Ser
387      515      520      525
390 Tyr Ser Phe Phe Val Ile Arg Asn Ala Lys Val Ala Ala Cys Ile
391      530      535      540

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395 <210> SEQ ID NO: 11

397 <211> LENGTH: 1721

399 <212> TYPE: DNA

401 <213> ORGANISM: Homo sapiens

405 <220> FEATURE:

407 <221> NAME/KEY: CDS

409 <222> LOCATION: (63)..(1691)

411 <223> OTHER INFORMATION:

RAW SEQUENCE LISTING

DATE: 07/10/2006

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TIME: 15:28:22

Input Set : A:\PTO.DA.txt

Output Set: N:\CRF4\07072006\J785116A.raw

W--> 415 <400> 11

416	ctagagcttt	cgactctccg	ctgcgcggca	gctggcgggg	ggagcagcca	ggtgagccca	60
418	ag atg ctg	ctg cgc tcg	aag cct gcg	ctg ccg ccg	ctg atg ctg		107
419	Met	Leu Leu Arg	Ser Lys Pro	Ala Leu Pro	Pro Pro Leu	Met Leu	
420	1	5	10	15			
422	ctg ctc	ctg ggg ccg	ctg ggt ccc	ctc tcc cct	ggc gcc	ctg ccc cga	155
423	Leu Leu Leu	Gly Pro Leu	Gly Pro Leu	Ser Pro Gly	Ala Leu Pro	Arg	
424		20	25	30			
426	cct gcg	caa gca	cag gac	gtc gtg	gac ctg	gac ttc ttc	acc cag gag
427	Pro Ala	Gln Ala	Gln Asp	Val Val	Asp Leu	Asp Phe Phe	Thr Gln Glu
428		35	40	45			
430	ccg ctg	cac ctg	gtg agc	ccc tcg	ttc ctg	tcc gtc	acc att gac gcc
431	Pro Leu	His Leu	Val Ser	Pro Ser	Phe Leu	Ser Val Thr	Ile Asp Ala
432		50	55	60			
434	aac ctg	gcc acg	gac ccg	cgg ttc	ctc atc	ctc ctg	ggt tct cca aag
435	Asn Leu	Ala Thr	Asp Pro	Arg Phe	Leu Ile	Leu Leu	Gly Ser Pro Lys
436		65	70	75			
438	ctt cgt	acc ttg	gcc aga	ggc ttg	tct cct	gcg tac	ctg agg ttt ggt
439	Leu Arg	Thr Leu	Ala Arg	Gly Leu	Ser Pro	Ala Tyr	Leu Arg Phe Gly
440	80	85	90	95			
442	ggc acc	aag aca	gac ttc	cta att	ttc gat	ccc aag	aag gaa tca acc
443	Gly Thr	Lys Thr	Asp Phe	Leu Ile	Phe Asp	Pro Lys	Lys Glu Ser Thr
444		100	105	110			
446	ttt gaa	gag aga	agt tac	tgg caa	tct caa	gtc aac	cag gat att tgc
447	Phe Glu	Glu Arg	Ser Tyr	Trp Gln	Ser Gln	Val Asn	Gln Asp Ile Cys
448		115	120	125			
450	aaa tat	gga tcc	atc cct	cct gat	gtg gag	gag aag	tta cgg ttg gaa
451	Lys Tyr	Gly Ser	Ile Pro	Pro Asp	Val Glu	Glu Lys	Leu Arg Leu Glu
452		130	135	140			
454	tgg ccc	tac cag	gag caa	ttg cta	ctc cga	gaa cac	tac cag aaa aag
455	Trp Pro	Tyr Gln	Glu Gln	Leu Leu	Leu Arg	Glu His	Tyr Gln Lys Lys
456		145	150	155			
458	ttc aag	aac agc	acc tac	tca aga	agc tct	gta gat	gtg cta tac act
459	Phe Lys	Asn Ser	Thr Tyr	Ser Arg	Ser Ser	Val Asp	Val Leu Tyr Thr
460	160	165	170	175			
462	ttt gca	aac tgc	tca gga	ctg gac	ttg atc	ttt ggc	cta aat gcg tta
463	Phe Ala	Asn Cys	Ser Gly	Leu Asp	Leu Ile	Phe Gly	Leu Asn Ala Leu
464		180	185	190			
466	tta aga	aca gca	gat ttg	cag tgg	aac agt	tct aat	gct cag ttg ctc
467	Leu Arg	Thr Ala	Asp Leu	Gln Trp	Asn Ser	Ser Asn	Ala Gln Leu Leu
468		195	200	205			
470	ctg gac	tac tgc	tct tcc	aag ggg	tat aac	att tct	tgg gaa cta ggc
471	Leu Asp	Tyr Cys	Ser Ser	Lys Gly	Tyr Asn	Ile Ser	Trp Glu Leu Gly
472		210	215	220			
474	aat gaa	cct aac	agt ttc	ctt aag	aag gct	gat att	ttc atc aat ggg
475	Asn Glu	Pro Asn	Ser Phe	Leu Lys	Lys Ala	Asp Ile	Phe Ile Asn Gly
476		225	230	235			
478	tcg cag	tta gga	gaa gat	tat att	caa ttg	cat aaa	ctt cta aga aag
479	Ser Gln	Leu Gly	Glu Asp	Tyr Ile	Gln Leu	His Lys	Leu Leu Arg Lys

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 07/10/2006
PATENT APPLICATION: US/10/785,116A TIME: 15:28:23

Input Set : A:\PTO.DA.txt
Output Set: N:\CRF4\07072006\J785116A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:47; N Pos. 507

Seq#:49; Xaa Pos. 507

VERIFICATION SUMMARY

DATE: 07/10/2006

PATENT APPLICATION: US/10/785,116A

TIME: 15:28:23

Input Set : A:\PTO.DA.txt

Output Set: N:\CRF4\07072006\J785116A.raw

L:21 M:270 C: Current Application Number differs, Replaced Current Application No
L:21 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:415 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:11,Line#:411
L:855 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:15,Line#:851
L:3270 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:45,Line#:3266
L:3499 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:47 after pos.:480
L:3535 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:49 after pos.:0

**Raw Sequence Listing before editing
(for reference only)**



IFW16

RAW SEQUENCE LISTING

DATE: 07/06/2006

PATENT APPLICATION: US/10/785,116A

TIME: 17:02:17

Input Set : A:\PTO.KD.txt

Output Set: N:\CRF4\07062006\J785116A.raw

5 <110> APPLICANT: Pecker, Iris
 7 Vlodavsky , Israel
 9 Feinstein, Elena
 13 <120> TITLE OF INVENTION: POLYNUCLEOTIDE ENCODING A POLYPEPTIDE HAVING HEPARANASE
 ACTIVITY AND
 14 EXPRESSION OF SAME IN GENETICALLY MODIFIED CELLS
 18 <130> FILE REFERENCE: 27674
 C--> 21 <140> CURRENT APPLICATION NUMBER: US/10/785,116A
 C--> 21 <141> CURRENT FILING DATE: 2004-02-25
 21 <160> NUMBER OF SEQ ID NOS: 49
 25 <170> SOFTWARE: PatentIn version 3.1

Does Not Comply
 Corrected Diskette Needed

Cpg-1)

ERRORED SEQUENCES

3542 <210> SEQ ID NO: 49
 3543 <211> LENGTH: 44
 3544 <212> TYPE: PRT
 3545 <213> ORGANISM: Rattus norvegicus
 3548 <220> FEATURE:
 3549 <221> NAME/KEY: misc_feature
 3550 <222> LOCATION: (9)..(9)
 3551 <223> OTHER INFORMATION: Xaa can be any naturally occurring amino acid
 3553 <400> SEQUENCE: 49
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 3556 1 5 10 15
 3559 Leu Pro Ala Gly Ser Ser Leu Ser Val Pro Ala Phe Ser Tyr Gly Phe
 3560 20 25 30
 3563 Phe Val Ile Arg Asn Ala Lys Ile Ala Ala Cys Ile
 3564 35 40
 E--> 3569 44

deleted

VERIFICATION SUMMARY

DATE: 07/06/2006

PATENT APPLICATION: US/10/785,116A

TIME: 17:02:18

Input Set : A:\PTO.KD.txt

Output Set: N:\CRF4\07062006\J785116A.raw

L:21 M:270 C: Current Application Number differs, Replaced Current Application No
L:21 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:415 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:11,Line#:411
L:855 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:15,Line#:851
L:3270 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:45,Line#:3266
L:3499 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:47 after pos.:480
L:3555 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:49 after pos.:0
L:3569 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:49